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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,583	03/14/2005	Rolf Pinkos	12810-00036-US	7595

30678 7590 03/16/2007  
CONNOLLY BOVE LODGE & HUTZ LLP  
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WILMINGTON, DE 19899-2207

EXAMINER
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TOSCANO, ALICIA

ART UNIT	PAPER NUMBER
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1712

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/16/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/527,583

Applicant(s)

PINKOS ET AL.

Examiner

Alicia M. Toscano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,12,15,18 and 19 is/are rejected.
- 7) ☒ Claim(s) 3,4,9,10,11,13,14,16,17,20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

Receipt of English translation of Foreign Priority received overcoming rejections over Schlitter (US 2004/0220381). New grounds of rejection are set forth below.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. Claims 1, 2, 5, 7, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dostalek (US 5641857) in view of Mastebroek (US 5138032).

Dostalek discloses the preparation of polytetrahydrofuran (PTHF) monoesters (abstract). The preparation comprises the use of THF, monocarboxylic acids, butanediol, water and low molecular weight PTHF (Column 6 Lines 23-39). The

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molecular weight of the resulting monoesters is 1000-3000 (Column 7 Line 1). Dostalek does not disclose the use of the monoester product as part of the startup reaction.

Mastenbroek discloses the polymerization of olefins. Said polymerization is started up with previously prepared linear alternating polymer (the desired product). Inclusion of the previously prepared polymer shortens the start up period of the reaction (abstract). The polymer may have the same composition and molecular weight as the polymer which is being produced (Column 5 Lines 27-30).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Dostalek use of the polymer product which is being prepared at the start up of the reaction, as taught by Mastenbroek, in order to decrease the overall polymerization time. Dostalek and Mastenbroek thusly meet all the limitations of Claim 1. The molecular weight is as set forth above, it is the Examiners position that even though the number average molecular weight is higher than the weight average molecular weight, the MW range of 1000-3000 discussed above would be encompass the Mn range of 650-4000 since the Mn would not be expected to be substantially greater than the MW, thus meeting the limitations of Claim 2.

The other monomers/polymers added to THF are classified as telogens. 0.04-17% of said telogens are used in the composition. It is the Examiners position that the said range meets the requirements of Claims 5, 7, 12 and 19 of the added carboxylic acid. Firstly, Claims 7 and 19 require no carboxylic acid, and are thusly rejected. For Claims 5 and 12 it is the Examiners position that since 0.04-17 wt% of telogens is added the amount of carboxylic anhydride would lie within this range.

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2. Claims 6, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dostalek and Mastebroek in view of Eller (US 6359108).

Dostalek and Mastebroek include elements of the invention as discussed above. Dostalek includes the use of formic acid in his composition. Dostalek and Mastebroek do not include the use of acetic anhydride.

Eller discloses methods for polymerizing THF. Said method may include either formic acid or acetic acid. Eller thusly teaches formic acid and acetic acid to be functionally equivalent.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Dostalek and Mastebroek the use of acetic acid, as taught by Eller, since it is recognized as being functionally equivalent to formic acid.

3. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Dostalek and Mastebroek in view of Sigwart (US 5939590).

Dostalek and Mastebroek include elements of the invention as discussed above. Dostalek and Mastebroek do not disclose the use of an inert solvent in the polymerization of THF.

Sigwart discloses a process for polymerizing THF copolymers. Said process includes the addition of inert organic solvents such as hydrocarbons (Column 7 Lines 29-35). Sigwart teaches the addition of these solvents has advantageous effects in that the phase separation of catalyst and THF is better facilitated.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Dostalek and Mastenbroek the use of an inert solvent, as taught by Sigwart, in order to optimize the separation of the catalyst residues from the PTHF.

***Allowable Subject Matter***

4. Claims 3, 4, 9-11, 13, 14, 16, 17 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reason: A process of preparing the mono or diesters of PTHF with PTHF, the monoesters themselves, THF, a comonomer and a carboxylic acid comprising 20-80 wt% mono or diester product and/or 7-80 wt% THF is not suggested nor disclosed in the prior art of record. Closet prior art is Dostalek and Mastenbroek, as used above. US 6252039 is considered an equivalent of Dostalek.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Toscano whose telephone number is 571-272-2451. The examiner can normally be reached on Monday to Friday 8:30 AM to 5 PM.

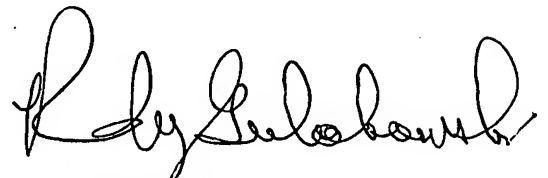
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMT



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SUPERVISORY P/TECHNOLOGY CENTER 1700